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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,748	10/30/2003	Bruce B. Doris	FIS920030264 (00750483AA)	6189
30743	7590	10/13/2005	EXAMINER	
WHITHAM, CURTIS & CHRISTOFFERSON, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			LE, THAO X	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/695,748

Applicant(s)

DORIS ET AL.

Examiner

Thao X. Le

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-12, 16-19 is/are rejected.
- 7) ☒ Claim(s) 13-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of claims 10-19 dated 02 Sept. 2005 is acknowledged. The traversal is on the ground that 'the Examiner has not provided a prime facie demonstration of distinctness between the identified invention'. This is found not persuasive because the alternate method proposed by the Examiner would be distinct from the claimed process. In Addition, Applicant has not provided a convincing argument that the materially different processes would not be suitable in producing the recited device. Finally, the search is not coexisting as evidenced by the different fields of search for the process and the product as cited in the restriction along with Office Action dated 06/02/05.

This requirement is deemed still proper and is therefore made FINAL.

2. This application contains claims 1-9 drawn to an invention nonelected with traverse dated 02 Sept. 2005. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Specification***

3. The disclosure is objected to because of the following informalities: page 10 line 28, spacer 11.

***Drawings***

4. The drawings were received on 02 Sept. 2005. These drawings are acceptable.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 13-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recited the limitation "the nMOS" and 'the pMOS' in claims 13, 15, 17-19. There is insufficient antecedent basis for this limitation in the claim.

Assuming 'the nMOS' and 'the pMOS' are 'the first' and 'the second' transistors, respectively.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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8. Claims 10-12 and 16-19 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pub2003/0181005 to Hachimine et al.

Regarding claim 10, Hachimine discloses a structure that adjusts carrier mobility in CMOS transistors in fig. 15 comprising: a substrate 1 [0164], a first transistor (n-ch MISFET) having a gate dielectric 5, gate electrode 6, and source/drain 7/10 [0165], and gate region 12 [0167], formed on said substrate 1, a second transistor (p-ch MISFET) having a gate dielectric 5, gate electrode 6, and source/drain 8/11, and gate regions 12, fig. 15, formed on said substrate 1, a first film 14a providing tensile stress [0168] at least at the channel of first transistor, a second film 14b providing compressive stress [0168] at least at the channel of second transistor, a portion of said second film 14b extending in the same region of said substrate as a portion of said first film 14a, fig. 15, and a shear force isolation layer 15 [0170] separating said first film 14a and said second film 14b and said tensile and compressive stress therein in at least one area, fig. 15.

Regarding claim 11, Hachimine discloses the structure as recited in claim 10 wherein the first and second films can be composed of nitride, oxide, or other material that exhibits either tensile or compressive properties [0168].

Regarding claim 12, Hachimine discloses the structure as recited in claim 11 wherein the first and second stressed films 14a/14b are separated by said shear force isolation layer 15 at all points of overlap, fig. 15.

Regarding claim 16, Hachimine discloses the structure as recited in claim 11 wherein the first and second stressed films 14a/14b are separated by a shear force isolation layer 5 at selected areas.

Regarding claim 17, Hachimine discloses the structure as recited in claim 16 wherein the first stressed film 14a, closer to the substrate than the second stressed film 14b, fully surrounds the NMOS transistor, fig. 31.

Regarding claim 18, Hachimine discloses th structure as recited in claim 17 wherein said first stressed film 14a is the only separation between the nMOS transistor and said second stressed film 14b, fig. 1.

Regarding claim 19, Hachimine discloses the structure as recited in claim 17 wherein said second stressed film 14b surrounds the oxide liner 15 at the sides of the PMOS transistor gate electrode 6 with the top of the gate directly engaged with said second stressed film 14b, fig. 31.

***Allowable Subject Matter***

9. Claims 13-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. The prior art of record neither anticipated nor rendered obvious all the limitations of claim 13 including 'the first stressed film, closer to the substrate than the second stressed film, does not fully surround the nMOS transistor, but rather the sides only, while the remaining surfaces of the nMOS transistor are contacted by said shear force isolation layer'.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

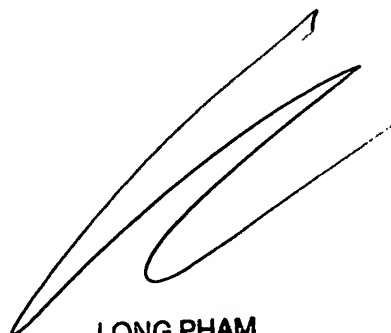
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thao X. Le  
Patent Examiner  
03 Oct. 2005



LONG PHAM  
SENIOR EXAMINER

Replacement Sheet

1/10  
DORIS ET AL.  
JPA FIS920030264US1

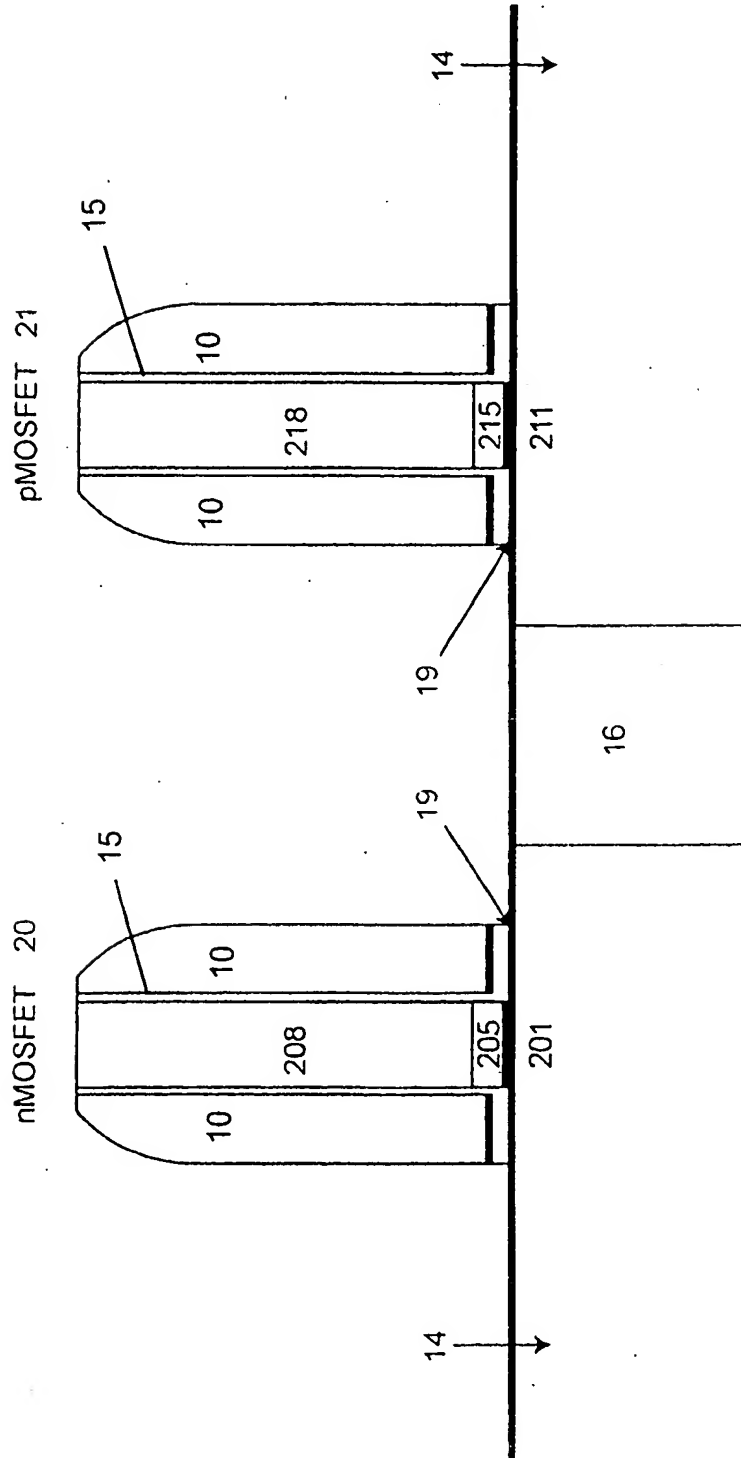


FIGURE 1

62  
72  
10/03/05

Replacement Sheet

2/10  
FIS920030264US1

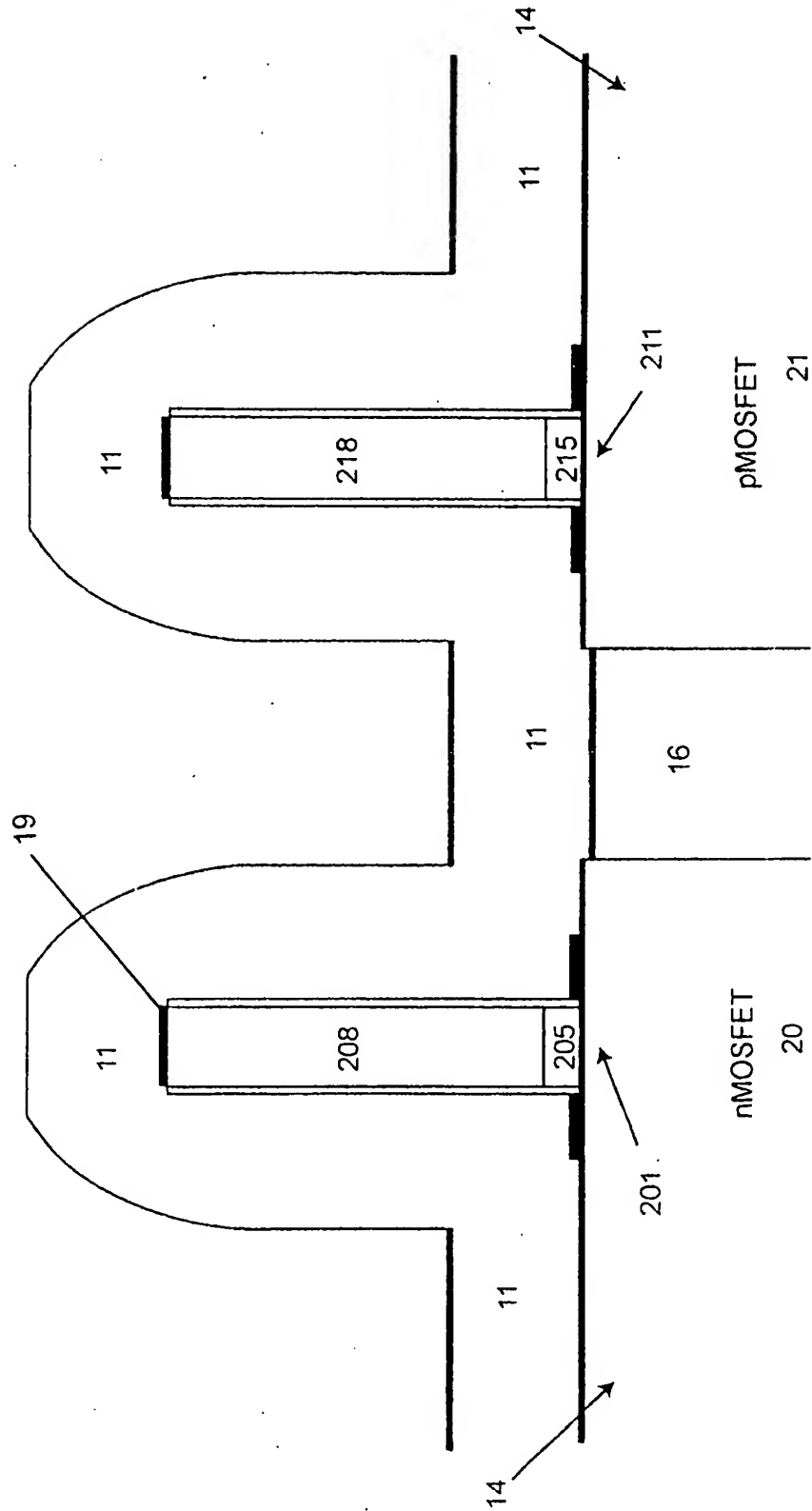


FIGURE 2

OK  
12  
10/03/05

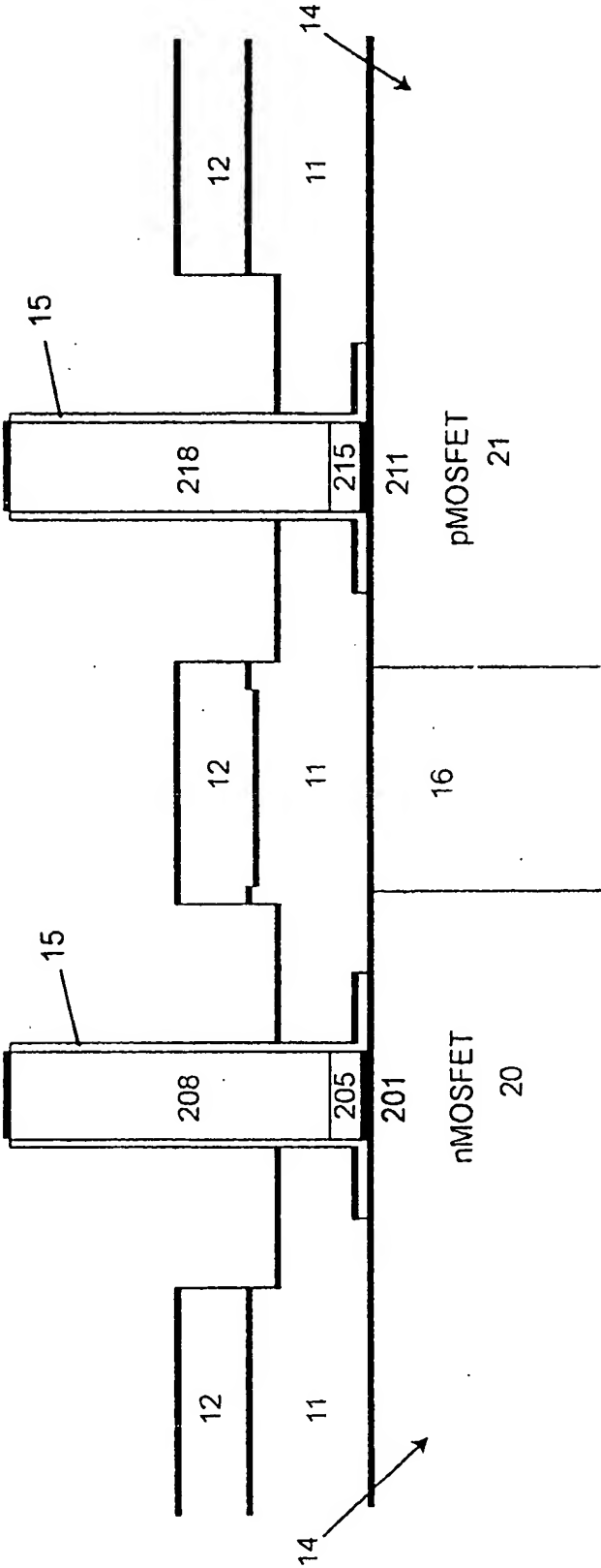


FIGURE 4

CK  
10/03/05

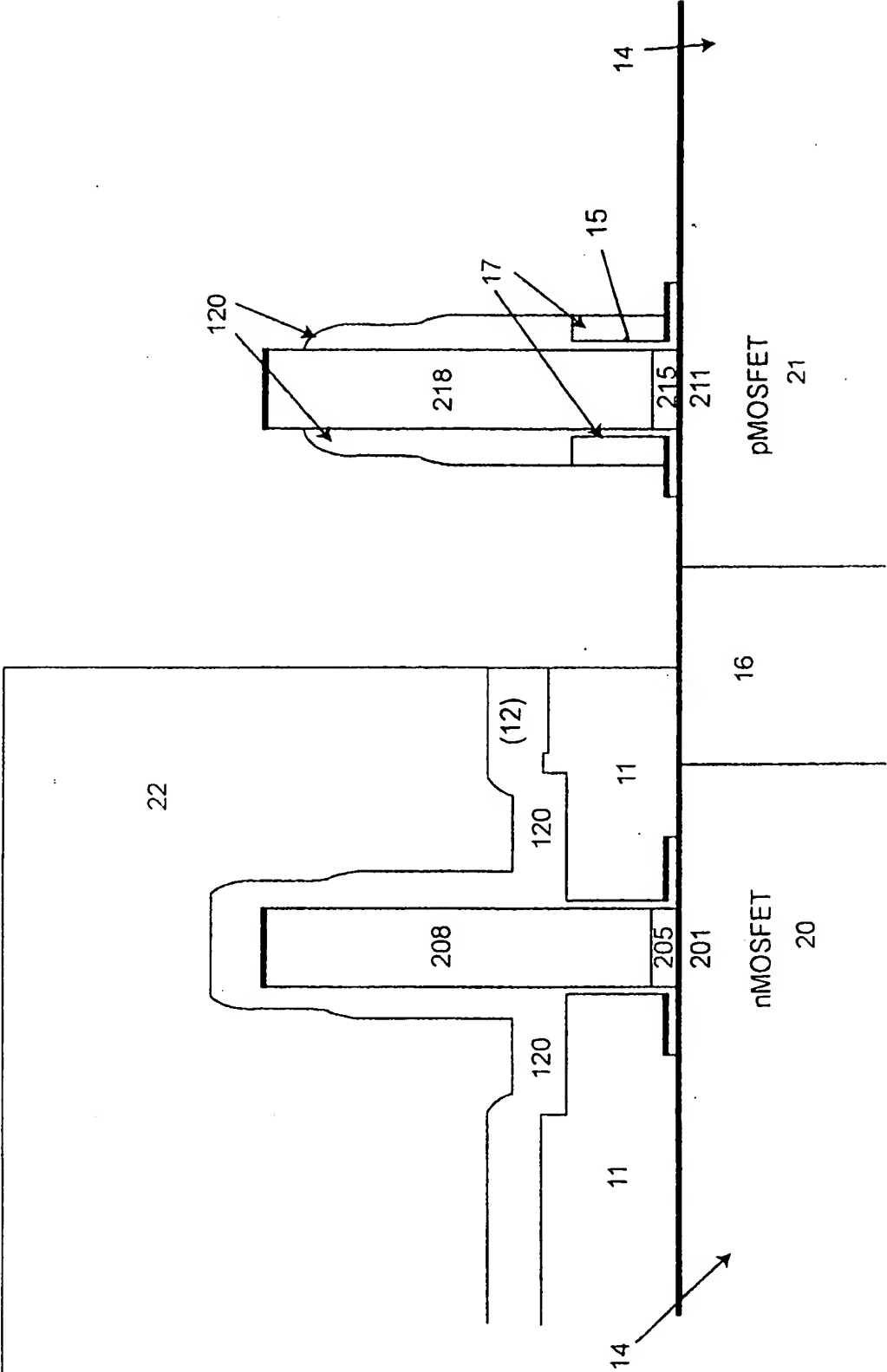


FIGURE 5

OK R  
10/03/03-

Replacement Sheet

10/10  
FIS920030264US1

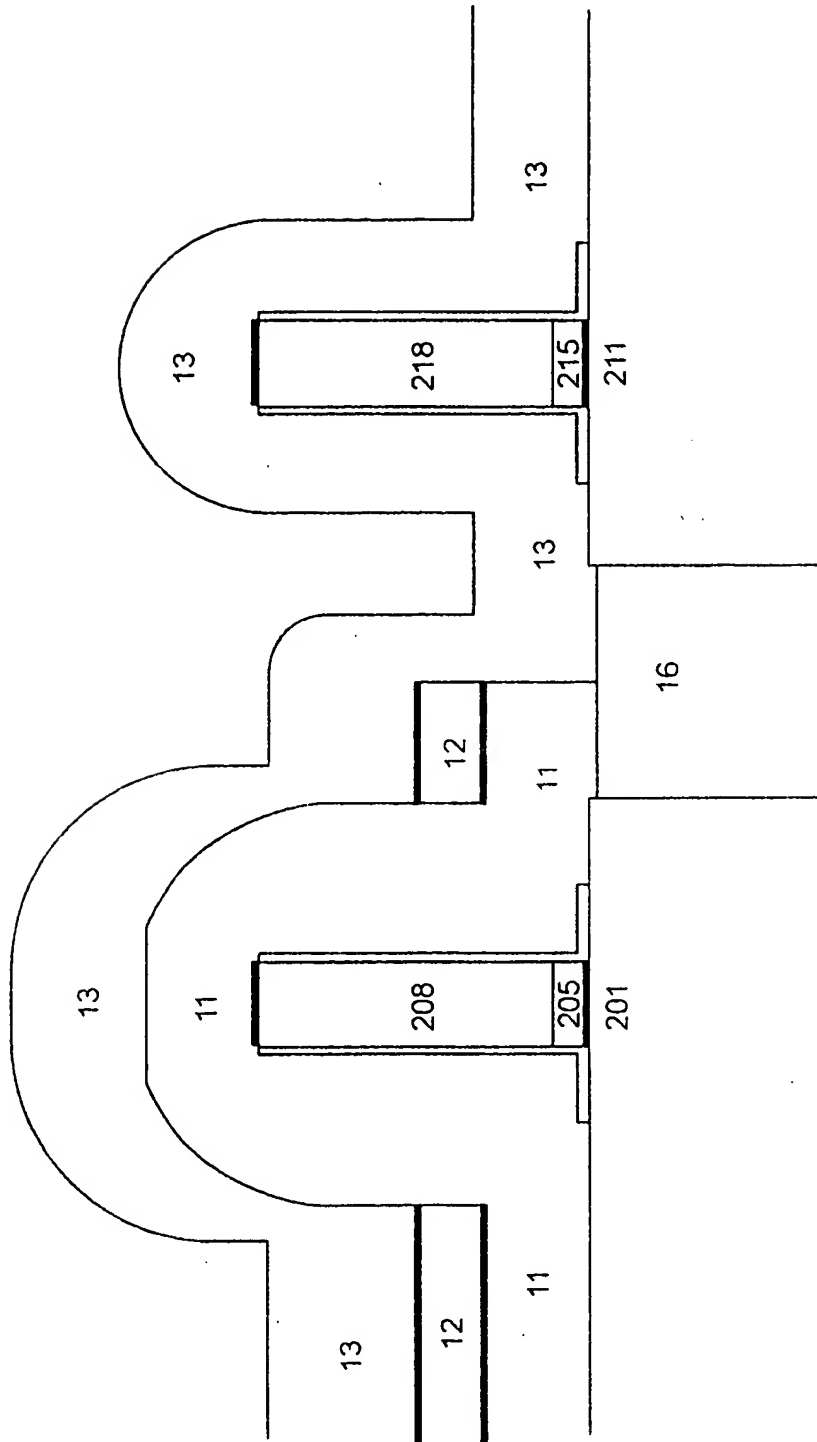


FIGURE 8C

OK  
TL  
10/03/05